



PLANT PATHOLOGY SERIES

# TIMELY INFORMATION

## Agriculture & Natural Resources

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PP-609

**APRIL PLANT DISEASES FROM THE AUBURN PLANT DIAGNOSTIC LAB**

**APRIL PLANT DISEASES FROM THE BIRMINGHAM PLANT DIAGNOSTIC LAB**

**APRIL INSECT SAMPLES AT THE AUBURN PLANT DIAGNOSTIC LAB**

**DISEASE POSSIBILITIES FOR MAY**

### LAB NOTES

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#### Auburn Plant Disease Report-April (J. Mullen)

April was generally warmer than normal and dry. Conditions were especially dry in the southern half of the state. In April, 99 plant samples were received.

Late April and May are usually months where we see a number of turf grass samples. Many of these samples are not disease problems but are related to winter-time injury.

Thus far in April and early May, we have not seen soybean rust on soybean. Soybean and kudzu and other legumes and weeds are being monitored around the state. Last month Ed Sikora found ASBR on kudzu in Montgomery. The kudzu had not gone dormant.

With our dry conditions during April and early May, plant diseases were lower than normal. The end of April, we begin to see an increase in samples and diseases including Rhizoctonia, powdery mildew, Helminthosporium, Cladosporium, *Corynespora cassiicola*, Pythium, and Phytophthora diagnoses.

Table 1. 2006 April Plant Diseases Seen In The Plant Diagnostic Lab at Auburn.

<u>Plant</u>	<u>Disease</u>	<u>County</u>
Azalea	Cercospora Leaf Spot	Perry
	Exobosidium Gall	Lee
Bermuda	Helminthosporium Crown Rot	Jefferson, St. Clair
Boxwood	Phytophthora Root Rot	Russell
Centipede	Take-All Patch	Clay, Tuscaloosa
Cotton	Rhizoctonia Stem & Root Rot ( <i>R. solani</i> )	Lee
Crape Myrtle	Powdery Mildew	Dallas
Cypress, Leyland	Seiridium Canker	Houston
Dogwood	Phytophthora Root Decay	*
Fatsia	Fungal Leaf Spot	Covington
Hydrangea, Oak Leaf	Phytophthora Crown Rot	*
Irish Potato	Fungal Leaf Spot	Baldwin
Liriope	Rhizoctonia Crown Rot	Limestone
Pine, Loblolly	Pine Needle Rust ( <i>Coleosporium asterum</i> )	Calhoun
Rhododendron	Cercospora Leaf Spot	Limestone
	Pestalotia Leaf Spot	Limestone

<u>Plant</u>	<u>Disease</u>	<u>County</u>
St. Augustine	Take-All Patch	Jefferson(5)
Tomato	Leaf Mold ( <i>Cladosporium fulva</i> )	*
	Pythium Crown Rot	Russell
	Target Spot ( <i>Corynespora cassiicola</i> )	*
Verbena	Botrytis Crown Rot	*
	Fusarium Crown Rot	*
	Phytophthora Crown Rot	*
	Pythium Crown Rot	*
	Rhizoctonia Root Rot	*
Zoysia	Helminthosporium Blight	Madison

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\*Locations are not reported for nursery, greenhouse, and golf course samples.

### Birmingham Plant Disease Report-April (J. Jacobi)

We received 75 samples for the month of April. Some of problems seen last month included Asian ambrosia beetle on apple and crape myrtle, Phytophthora root rot on boxwood and English ivy, cedar-quince rust on juniper, Volutella blight on pachysandra, leather rot on strawberry, and streptomycin injury on pear. Streptomycin often used for control of fire blight can occasionally cause pale green to white spots on apple and pear. The damage is most often confined to the leaf tips and margins.

Symptoms of Volutella blight of pachysandra include both black stem lesions or cankers and leaf spots. The latter often have concentric rings and infected leaves often yellow and fall. Under moist conditions, salmon to pink colored masses of spores form on dead stems. Under severe conditions large patches of pachysandra may be killed. Control involves both sanitation and the use of fungicides. In older established beds, remove diseased plants, leaves and debris which may be retaining moisture. Also, check for scale insect or other problems, including nutritional deficiencies, which can cause the planting to be more susceptible to Volutella blight. During periods of prolonged wet weather use fungicides (mancozeb or chlorothalonil) to protect plants from infection.

Leather rot on strawberry was also seen in the lab last month. The disease is caused by the fungus *Phytophthora cactorum* and primarily attacks fruit, but can also attack blossoms. Infected fruits are characteristically tough and leathery, hence the name leather rot, and have a bitter taste. Cutting the fruit open may reveal a central hollow cavity of the fruit containing white mycelium of the pathogen. The following web publication has additional information on this disease (<http://ohio-line.osu.edu/hyg-fact/3000/3201.html>).

Table 2. 2006 April Problems Seen In The Birmingham Plant Diagnostic Lab.

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Apple	Asian Ambrosia Beetle	Walker
	Nectria Canker	Walker
	Powdery Mildew	Walker
Azalea	Azalea Lacebug	Jefferson
	Azalea Mite	Jefferson
	Phomopsis Dieback	Jefferson
Bentgrass	Fairy Ring	*
Bermudagrass	Brown Patch	*
Birch, River	Spiny Witch-Hazel Gall Aphid	Jefferson
Boxwood, Common	Phytophthora Root Rot	Jefferson
Camellia	Gray Leaf Spot ( <i>Pestalotia</i> )	*
	Oedema	Jefferson
Crape Myrtle	Asian Ambrosia Beetle	Shelby
Cypress, Leyland	Seiridium Canker	Jefferson
Daylily	Leaf Streak ( <i>Aureobasidium</i> )	Coosa
	Rhizocotnia Root Rot	Coosa
Elaeagnus	Vole Damage	Shelby

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Elm, Lacebark	Black Spot ( <i>Stegophora</i> )	Jefferson
	Rhizoctonia Root Rot	*
Euonymus, Japanese	Powdery Mildew	Jefferson/Shelby
Gardenia	Citrus Whiteflies	Jefferson
	Sooty Mold	Jefferson
Hickory	Phylloxera	Jefferson
Holly, Japanese	Black Root Rot ( <i>Thielaviopsis</i> )	Jefferson
	Pythium Root Rot	Jefferson
Indian Hawthorn	Entomosporium Leaf Spot	Jefferson
Ivy, English	Phyllosticta Leaf Spot	Jefferson
	Phytophthora Root Rot	Jefferson/St. Clair
Juniper	Cedar-Quince Rust	Jefferson
Juniper, Creeping	Spruce Spider Mite	Montgomery
Lemon	Citrus Red Mite	Tuscaloosa
Magnolia, Southern	False Oleander Scale	Jefferson
	Tuliptree Scale	Jefferson
Maple, Japanese	Botryosphaeria Canker	Jefferson
Oak, White	Oak Vein Gall	St. Clair
	Wool Sower Galls	St. Clair
Pachysandra, Japanese	Volutella Blight	Jefferson
Palm, Ponytail	Latania Scale	Montgomery
Pear	Streptomycin Injury	Etowah

<u>Plant</u>	<u>Problem</u>	<u>County</u>
Pecan	Kernel Spot (Stinkbug Damage)	Autauga
Rose	Mosaic Virus	Tuscaloosa
Strawberry	Leather Rot ( <i>Phytophthora</i> )	Morgan
Tomato	Cucumber Mosaic Virus	Morgan
	Flea Beetle	Jefferson

\*Locations are not reported for nursery, greenhouse, and golf course samples.

Auburn Entomology Report-April (C. Ray)

<b>County</b>	<b>Crop</b>	<b>Category</b>	<b>Specimen Name</b>
Covington	Home	Household-Stored Product	Varied Carpet Beetle, <i>Anthrenus verbasci</i>
Houston	Home	Household-Miscellaneous	Crane Flies - Tipulidae
Butler		Miscellaneous	Flying Ants - Formicidae
Lee	Home	Household-Miscellaneous	Crane Flies - Tipulidae
Lee	Neopteris	Ornamental	Cactus Eriococcin, <i>Acanthococcus coccineus</i> *
Lee	Pachypodium	Ornamental	Cyanophyllum Scale, <i>Abgrassaspis cyanophyllum</i>
Tuscaloosa	Water Oak, <i>Quercus nigra</i>	Ornamental	Eastern Tent Caterpillar, <i>Malacosoma americanum</i>
Tuscaloosa	Rose	Ornamental	A Scentless Plant Bug, <i>Jadera haematoloma</i>
Tuscaloosa	Corn	Row Crops	Fungus Gnat Larvae
Tuscaloosa	Peas	Row Crops	Fungus Gnat Larvae

<b>County</b>	<b>Crop</b>	<b>Category</b>	<b>Specimen Name</b>
Houston	Ivy	Ornamental	False Oleander Scale, <i>Pseudaulacaspis cockerelli</i>
Houston	Home	Household-Stored Product	Lesser Grain Borer, <i>Rhyzopertha dominica</i>
Houston	Ivy	Ornamental	Pyriiform Scale, <i>Protopulvinaria pyri-formis</i>
Limestone	Geranium	Ornamental	Beet Armyworm, <i>Spodoptera exigua</i>
Limestone	Pantry	Household-Stored Product	Indian Meal Moth, <i>Plodia interpunctella</i>
Walker	Home	Household-Miscellaneous	Andrenid Bee
Cullman	Plumeria	Ornamental	Possible European Corn Borer Damage
Randolph	River Birch, <i>Betula nigra</i>	Ornamental	Spiny witch-hazel gall aphids, <i>Hamamelistes spinosus</i>
Lee	Home	Household-Miscellaneous	Flesh Flies, Sarcophagidae
Limestone	Strawberry	Fruit and Nuts	Strawberry Weevil, <i>Anthonomus signatus</i>
Madison	Human	Household-Miscellaneous	Inchworm - Geometridae
Talladega	Home	Household-Miscellaneous	May Beetles, <i>Phyllophaga</i> sp.
Talladega	Maple	Ornamental	Asian Ambrosia Beetle, <i>Xylosandrus crassivittatus</i>
Jefferson	Home	Household-Stored Products	Drugstore Beetle, <i>Stegobium paniceum</i>
Not Provided	Home	Household-Miscellaneous	Hister Beetles - Histeridae
Jefferson	Pony Tail Palm, <i>Beauvernia recurvata</i>	Ornamental	Latania Scale, <i>Hemiberlesia lataniae</i>

<b>County</b>	<b>Crop</b>	<b>Category</b>	<b>Specimen Name</b>
Jefferson	Poppy	Ornamental	Soldier Beetle, Cantharidae
Russell		Miscellaneous	Southeastern Blueberry Bee, <i>Habropoda labo- riosa</i>
Bartow, GA	Pyracantha	Ornamental	Japanese Maple Scale, <i>Lopholeucaspis japonica</i> & San Jose Scale, <i>Quadraspidiotus perniciosus</i>
Pike	Azalea	Ornamental	Azalea Lace Bug, <i>Stephantis pyrioides</i>
Houston	Home	Household- Structural	Eastern Subterranean Termite, <i>Reticulitermes fla- vipes</i>
Houston	Crape Myrtle	Ornamental	A Long-Horned Woodboring Beetle, <i>Ancylocera bicolor</i>
Butler	Home	Household- Miscellaneous	Argentine Ants, <i>Linepithema humilis</i>
Washington		Miscellaneous	Bee Assassin Bug, <i>Apiomerus crassipes</i>
Baldwin	Kudzu	Miscellaneous	Brown Stink Bug
Mobile	Kudzu	Misceallaneous	Mealybug Nymphs (Pseudococcidae) & Cottony Cushion Scale ( <i>Icerya pur- chasi</i> ) Crawler
Not Provided	Home	Household- Miscellaneous	Shot Hole Borers, ( <i>Xyleborinus sax- seni</i> ), Varied Carpet Beetle ( <i>Anthrenus verbasci</i> )
Limestone	Liriope	Ornamental	Liriope Scale, <i>Pinnaspis caricis</i>
Mobile	Home	Household- Structural	Drywood Termite Feces

County	Crop	Category	Specimen Name
Jefferson	Home	Medical	Male Brown Recluse Spider, <i>Loxosceles reclusa</i>
Calhoun	Home	Household-Miscellaneous	Grass Spider Male, <i>Agelenopsis</i> sp.
Madison	Palm	Ornamental	False Oleander Scale, <i>Pseudaulacaspis cockerelli</i>
Etowah	Chinese Holly	Ornamental	Tea Scale, <i>Fiorinia theae</i>
Etowah	Palm	Ornamental	False Oleander Scale, <i>Pseudaulacaspis cockerelli</i>
Marengo	Corn	Row Crops	Chinch Bugs ( <i>Blissus insularis</i> ), Southern Corn Leaf Beetle, Tobacco Thrips ( <i>Frankliniella fusca</i> ), <i>Diomus</i> sp. Ladybeetle
Coosa	Persimmon	Fruit and Nuts	Camphor Shoot Beetle ( <i>Xylosandrus mutilatus</i> ) Damage
Covington	Fatsia	Ornamental	Pyriiform Scale ( <i>Protopulvinaria pyriformis</i> ), False Spider Mites ( <i>Tenuipalpidea</i> )
Bartow, GA	Ivy	Ornamental	Spider Mites, Tetranychidae
Lee	Home	Medical	Bat Bug, <i>Cimex</i>
Jefferson	Azalea	Ornamental	Azalea White Mite, <i>Eotetranychus clitus</i>

\*New State Record.

### Disease Possibilities For May

As is usual in May, we are seeing an abundance of turf grass samples. Thus far, many of our turf samples have involved non-infectious situations as is typically the case for turf problems sent to us in April and early May. The continuing over-all dry conditions have reduced incidence of turf diseases and other diseases in early May.

The list below includes some common disease problems received in the lab during May of the past few years. Comments on control practices are brief. Refer to the Alabama Pest Management Handbook or appropriate fact sheet or disease notes publications for details on disease control.

Table 3. Brief Disease Descriptions and Control Recommendations for Diseases Often Seen in May.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Any	Slime Mold	Not actually a disease; gray, black, pink, or yellow slimy or powdery masses on plants or soil; plasmodium or slime stage may be a mass of paper-thin ruffled 'sheets' the consistently of a thinnish layer of 'Jello'; the spore stage is often powdery with the coloration of black, pink, yellow or orange from spore production.	Wash off with a strong stream of water; physical removal.
Apple	Armillaria Root Rot	Dieback; thin, white mycelial layer just under bark, appressed to wood.	Removal of tree and roots; maintain healthy trees.
	Cedar-Apple Rust ( <i>Gymnosporangium</i> )	Bright yellow leaf spots (up to ¼ or ½" diameter).	Protective fungicide sprays; Removal of junipers. See ANR-408.
	Fire Blight ( <i>Erwinia</i> )	Small (⅛-¼" diameter) circular-irregular spots with purple margins and brown centers.	Sanitation in the fall; protective sprays during growing season.
	Powdery Mildew ( <i>Podosphaera</i> )	Whitish powdery dusting on foliage; leaf deformity; blight.	Sanitation in the fall; protective fungicide sprays.
Armaryllis	Stagnospora Leaf Spot	Fairly large (¼-½ inch long) oval or elliptical or irregularly shaped red spots.	Sanitation. Protective sprays of Cleary's 3336 or Domain.
Ash	Anthracnose ( <i>Discula</i> )	Brown irregular spots blotches.	Sanitation of fallen leaves.
Azalea	Aerial Blight ( <i>Rhizoctonia</i> )	Mostly seen in greenhouse-nursery situations; lower leaves become blighted and fall.	Sanitation; protective fungicide sprays.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Colletotrichum Leaf Spot	Small, brown, circular leaf spots develop.	Sanitation; See the AL Pest Management Handbook.
	Exobasidium Gall	Swollen blossoms, leaf, and shoot galls. From mid April-mid May, galls change from a green to a white or pink-white color.	Sanitation; removal of galls while they are still green. Protective fungicide application may be made.
	Phomopsis Blight & Dieback	Sunken cankers develop on twigs and small branches; twig dieback results.	Prune out cankers. Make cuts at least 2 inches beyond the damage.
	Phytophthora Root Rot	Roots brown and water-soaked.	Sanitation. Protective fungicide drenches in nursery situations.
Bean, Garden	Alternaria Leaf Spot	Dark brown angular-circular spots (about 5 mm diameter) scattered on leaf surfaces.	Bravo 720 should control this problem.
	Anthrachnose ( <i>Colletotrichum</i> )	Circular-irregular, reddish-brown pod, leaf & stem spots develop.	Sanitation. See the AL Pest Management Handbook.
	Bacterial Blight	Greasy, dark green irregular spots (1/8-1/4" diameter) become black and papery with wet looking margins sometimes surrounded by a yellow zone.	Protective sprays. See the AL Pest Management Handbook.
	Mosaic Viruses	Distinct pattern of dark green & light green or yellow on leaves.	Control weeds; control beetles and aphids; Do not save seed; remove diseased plants.
	Pythium Root Rot	Roots are soft, brown, water soaked.	Avoid wet conditions.
	Rhizoctonia Soreshin	Dark reddish-brown sunken lesion(s) on lower stem.	See AL Pest Management Handbook for a before-planting soil treatment.
Bee Balm	Powdery Mildew	Powdery white dusting on leaves; blight; distorted new growth.	Cleary's 3336; sanitation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Begonia	Bacterial Leaf Spot ( <i>Xanthomonas</i> )	Dark brown angular spots (about 5 mm diameter or less). Outer edges of spots may appear wet (water soaked); centers of spots may dry and crack. Spots may coalesce.	See the AL Pest Management Handbook; Sanitation.
Bentgrass	Anthracnose ( <i>Colletotrichum</i> )	Yellow to brown irregular, elongate spots develop on leaves.	Irrigate in the early morning; collect grass clippings; avoid stress; See the AL Pest Management Handbook.
	<i>Bipolaris cyanodontis</i> Leaf Spot	Small, elliptical brown spots; spots may coalesce into blighted grass blades.	Sanitation of cut grass blades; good fertility practices; see AL Pest Management Handbook for recommended fungicides.
	Pythium Blight	Wet-looking blight of foliage.	See the AL Pest Management Handbook; decrease irrigation.
Bermuda	Algae ( <i>Cephaleuros</i> )	Dark green, thin, flat 'sheets' of algae develop on grass foliage.	Promote good drainage and drying out of the area; See the AL Pest Management Handbook.
	<i>Bipolaris</i> Leaf Spot/ Blight	Smallish ( $\frac{1}{8}$ inch or less) elongated brown spots on grass blades. Spots may coalesce.	See AL Pest Management Handbook for recommendations under Helminthosporium melting-out.
	Brown Patch ( <i>Rhizoctonia</i> )	Circular-irregular patches in lawn become brown. Brown lesions present on individual grass blades.	Reduce nitrogen fertilization. Sanitation. Protective fungicide treatments.
	Dollar Spot ( <i>Sclerotinia homeocarpa</i> )	Small pale yellow spots the size of a silver dollar are characteristic; spots often coalesce; leaves show characteristic cream-colored spots with dark brown borders.	Improve fertilization and provide adequate irrigation. In some situations, protective fungicide treatments are needed. See ANR-493 and the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Exserohilum Blight	Smallish ( $\frac{1}{8}$ inch or less) elongated brown spots on grass blades. Spots may coalesce.	See AL Pest Management Handbook for recommendations under Helminthosporium melting-out.
	Rust ( <i>Puccinia</i> )	Foliage becomes pale green-brown with an orange tint; orange spores masses will rub off on a finger wiped across leaf surfaces.	See the AL Pest Management Handbook.
	Spring Dead Spot ( <i>Gaeumannomyces graminis</i> pv <i>graminia</i> )	Large circular areas fail to green-up in the spring.	See the AL Pest Management Handbook.
Birch, River	Anthracnose ( <i>Cryptocline</i> )	Brown leaf spots and blotches develop on leaves.	Clean up & remove all leaf litter this fall.
Blackberry	Anthracnose ( <i>Colletotrichum</i> )	Irregularly-shaped brown spots & blotches on leaves and canes.	See the AL Pest Management Handbook.
	Double Blossom ( <i>Cercospora</i> )	Floral canes develop abnormal flowers with thickened petals. Internodes are shortened. Leaf development at nodes is abnormally abundant.	Sanitation as soon as abnormality is discovered. Protective fungicide treatment.
	Phoma Cane Blight	Large brown lesions on canes; dieback.	Sanitation.
	Septoria Leaf Spot	Small (usually $\frac{1}{4}$ inch) angular brown spots.	See fungicide recommendations under anthracnose.
Blueberry	Botryosphaeria Blight	Somewhat inconspicuous sunken cankers develop along branches or on lower trunk areas. Dieback results. (Sometimes this condition is associated with soils excessive in phosphorus & calcium.)	Sanitation. Benlate protective sprays.
	Botrytis Blossom Blight and Stem Canker	Blossoms become brown; stems develop sunken lesions.	Sanitation; Benlate protective sprays.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Boxwood	Volutella Blight	Sunken cankers on stems and branches. Surface areas of cankers may be covered with orange spore masses of the fungus.	Pruning of cankered stems. After pruning operations are complete, a protective spray treatment of Cleary's 3336 may be helpful. Avoid stressful situations.
Broccoli	Downy Mildew ( <i>Pseudoperonospora</i> )	Light yellow spots/blotches on upper leaf surfaces; gray spots on corresponding lower leaf areas.	See the AL Pest Management Handbook.
Brussel Sprouts	Black Rot ( <i>Xanthomonas</i> )	Black V-shaped lesions on leaf edges; black leaf veins; black decay of inner stems; wilt.	Sanitation; See AL Pest Management Handbook.
	<i>Sclerotium rolfsii</i> Crown Rot	Brown decay at soil line. Brown, mustard seed-like structures of fungus may be present at soil line.	Sanitation. See A. Hagan.
Butter Beans	Anthracnose ( <i>Colletotrichum</i> )	Dark brown irregular-circular sunken spots on foliage, pods. Spots become covered with rusty-colored spores.	See AL Pest Management Handbook.
	Cercospora Leaf Spot	Medium-light brown irregular spots.	See AL Pest Management Handbook under Anthracnose.
Camellia	Exobasidium Gall	See azalea.	Sanitation.
Camellia, Sasanqua	Anthracnose ( <i>Glomerella</i> spp.)	Sunken branch lesions, often round or oval; dieback.	Pruning of cankered areas.
Cantaloupe	Bacterial Wilt ( <i>Erwinia</i> )	Individual leaves wilt, then lateral shoots also wilt. Eventually whole plant wilts and dies.	Sanitation; use insecticide to control cucumber beetles.
	Gummy Stem ( <i>Mycosphaerella</i> )	Brown, elongated, cracked lesions with a gummy exudate.	See the AL Pest Management Handbook.
Catalpa	Alternaria Leaf Spot	Mostly circular brown spots.	Collect and remove all leaf litter this fall.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Cedar, Eastern Red	Kabatina Tip Blight	Branch tips become brown; necrosis spreads down the branch.	Sanitation of diseased plant parts; Cleary's 3336 may provide some protection.
Centipede	Anthracnose ( <i>Colletotrichum</i> )	Yellow-brown, irregular-elongate spots; blight.	Keep the area dry; water early in the day; collect grass clippings; see the AL Pest Management Handbook.
	Brown Patch ( <i>Rhizoctonia</i> )	Browning patches or rings of grass. Brown, irregular leaf spots may also occur.	Fungicide sprays; collect clippings; avoid excess nitrogen application.
	Take-All Patch ( <i>Gaeumannomyces</i> ) (Possibly a secondary occurrence or weak pathogen.)	Individual plants yellow and thin out. Stolons and roots develop black lesions.	See PP-312. Bayleton is labeled.
Cherry	Peach Leaf Curl & Plum Pockets ( <i>Taphrina</i> spp.)	Firm irregular galls or concave-convex gall-swelling on leaves.	Fungicide applications in late winter before bud swell, and at bud break.
	Phomopsis Canker	Gray-brown, sunken elliptical lesions on twigs, small branches.	Sanitation.
	Septoria Leaf Spot	Brown, irregularly shaped spots (1/4-1/3 inch diameter) on leaves.	Sanitation.
Cherry Laurel	Algal Leaf Spot ( <i>Cephaleuros</i> )	Slightly raised, reddish-green circular spots with irregular edges.	Sanitation. Reduce humidity.
Christmas Cactus	Rhizoctonia Stem Rot	Dry, brown decay of stem.	Sanitation. Protective sprays of Cleary's 3336 or Halt.
Clematis, Evergreen	Pythium Root Rot	Light brown, decayed roots, dieback; wilt.	Remove damaged plants; Keep the area well drained. Allow areas to dry out.
Cleyera	Phytophthora Root Rot	Dieback, wilt; roots become water soaked and rotted.	Sanitation. Reduce irrigation and/or improve soil drainage.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Coleus	Phytophthora Root Rot	Roots are brown and water soaked. Tops collapse.	Sanitation. Avoid poorly drained sites.
	Pythium Root Rot	Plants show poor growth, dieback; roots are discolored to a light brown; root cortex separate easily from the central cylinder.	Sanitation; Improve soil drainage.
Collard	Bacterial Leaf Spot	Dark brown-black angular, vein-bound leaf spots.	Sanitation; do not irrigate overhead. See AL Pest Management Handbook.
Corn	Bacterial Stalk Rot	Brown lesions cause collapse of stem.	Sanitation.
	Fusarium Crown Rot	Crown develops dry, reddish-brown rot; tops wilt and dieback.	Sanitation; crop rotation.
	Ring Nematode ( <i>Criconeoides</i> )	Plants become stunted; may appear nutrient deficient.	Crop rotation; consult with Ed Sikora.
	Smut ( <i>Ustilago maydis</i> )	Black powdery galls form on ears, tassels, stalks.	Sanitation; crop rotation, resistant hybrids and varieties.
Cotton	Alternaria Leaf Spot	Medium brown, circular or oval leaf spots, blight.	See Ed Sikora.
	Fusarium Seedling Disease	Red-brown lesions on lower stem near soil line.	Seed Treatment.
	Pythium Root Rot	Roots become brown and water soaked. Foliage becomes yellowed, wilted and browned.	Seed Treatment.
	Rhizoctonia Seedling Disease	Medium-dark brown lesions on lower stem near soil line.	Seed Treatment.
	Thielaviopsis Root Rot	Black spots/lesions along roots.	----

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Crabapple	Botryosphaeria Canker and Frogeye Leaf Spot	Brown circular-irregular leaf spots with dark margins; sunken brown lesions on twigs, branches.	Sanitation; Cleary's 3336, Domain, or a benomyl labeled for ornamentals may help.
	Cedar Apple Rust ( <i>Gymnosporangium</i> )	Bright yellow circular spots (1/4-1/2 inch diameter) on leaves; orange spore masses (circular projections) develop on leaves (lower leaf surfaces) and fruit.	Remove junipers or apply protective fungicide sprays to crabapples. See AL Pest Management Handbook.
	Fire Blight ( <i>Erwinia amylovora</i> )	Blossom blight; rapid dieback; cankers form at end of the dieback.	Prune off dieback areas. Make cuts 10-12 inches beyond margin of dieback. Remove cuttings. See ANR-542 and the AL Pest Management Handbook.
	Scab ( <i>Venturia inaequalis</i> )	Olive, slightly raised small spots develop on leaves and fruit.	Sanitation. See the AL Pest Management Handbook for fungicides.
Crape Myrtle	Powdery Mildew	Initially, a white dusting of the fungus appears on upper leaf surfaces. Eventually, infected leaves turn brown. Leaves may be curled and distorted.	Prune branches to help reduce humidity. See the AL Pest Management Handbook.
Cucumber	Bacterial Wilt ( <i>Erwinia</i> )	Individual leaves become wilted, yellowed and finally brown. Eventually, whole stem sections wilt and die.	Control cucumber beetles.
	Cercospora Leaf Spot	Cream-colored, angular spots.	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Root Rot	Roots become brown and water-soaked; outer cortex slides easily away from root central cylinder.	Sanitation.
Daisy, Gerbera	Powdery Mildew	White powdery dusting on leaf and blossom surfaces; blight.	See the AL Pest Management Handbook.
Daylily	Kabatiella Streak	Yellow spots and elongated streaks on leaves.	Sanitation of spotted leaves; Cleary's 3336 or Halt may be used.
	Rust ( <i>Puccinia hemerocallidis</i> )	Elongated yellow-brown spots, blight on leaves. Orange pustules evident at early stages of disease.	Sanitation. See TI PP-506. For homeowners, Immunox or Ferti-loam System Fungicide may be used.
Dogwood	Anthrachnose ( <i>Discula</i> )	Large brown circular-irregular spots (1/4-1/2 inch diameter) with dark brown-purple borders develop first on foliage of lower branches. Leaf spots merge. Dieback will result. Cankers develop.	Sanitation. Protective fungicide sprays.
	Botrytis Blight	Foliage shows grey-brown blotches, spots.	See AL Pest Management Handbook under spot anthracnose.
	Phyllosticta Leaf Spot	Small (1/4 inch or less) circular brown spots with dark brown margins.	Sanitation of fallen leaves in the fall. See the AL Pest Management Handbook under Septoria.
	Phytophthora Crown & Root Rot	Crown and root rot tissues brown discolored and water soaked.	Sanitation. See the AL Pest Management Handbook for fungicide recommendations.
	Powdery Mildew	White powdery dusting on leaf and blossom surfaces; blight.	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Spot Anthracnose ( <i>Elsinoe</i> )	Small (1/16 inch or less diameter) circular reddish spots develop on bracts; spots on leaves are similar in size but brownish red in color and some leaf spots may be irregular in shape.	Sanitation in the fall. Protective fungicide sprays recommended only for specimen trees.
Elm	Powdery Mildew ( <i>Phyllactinia</i> )	White powdery patches develop on leaves; some leaf deformity.	Sanitation of fallen leaves. See the AL Pest Management Handbook.
Euonymus	Powdery Mildew	See description above for powdery mildew on elm.	See comments for powdery on elm.
Fescue	Net Blotch ( <i>Drechslera</i> )	Brown, irregularly pigmented rectangular shaped blotches (1/8 inch or less diameter) on leaf blades. Spots may merge to cover large areas.	See AL Pest Management Handbook under Helminthosporium melting out.
Forsythia	Crown Gall ( <i>Agrobacterium tumefaciens</i> )	Irregular, rough, somewhat spherical galls on branches and lower trunk.	Sanitation; crop rotation.
	Phomopsis Dieback	Branch dieback; sunken cankers form at end of dieback.	Pruning 3-4 inches beyond dieback margin; Remove cuttings.
Gardenia	Anthracnose	Brown leaf spots and blotches appear.	Remove all fallen leaves from the area. See the AL Pest Management Handbook.
Geranium	Bacterial Blight ( <i>Xanthomonas</i> )	Black leaf spots and stem rot lesions. Yellow-brown wedges may develop in spotted areas of leaves. Lower leaves may wilt and die due to systemic infections.	Sanitation. Bordeaux Mixture.
Gerbera Daisy	Powdery Mildew	White, powdery dusting on upper leaf surfaces.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Ginseng	Fusarium Root Rot	Plants wilt and die-back or show poor growth.	Crop rotation.
Grape	Black Rot ( <i>Guignardia</i> )	Medium-black brown circular spots ( $\frac{1}{8}$ - $\frac{1}{4}$ inch) on leaves and fruit.	Protective fungicide sprays; sanitation.
Greenhouse Crops	Tomato Spotted Wilt Virus	Symptoms are variable but include gray-black leaf spots/blotches, yellow ringspot patterns, stunted growth malformed stunted and/or spotted new growth, and wilt.	Sanitation; control thrips.
Hawthorn	Anthracnose	Circular-irregular shaped, brown/leaf spots.	Remove all fallen leaves; protective sprays of Cleary's 3336, Halt, or OHP 6672 may be used if desired.
	Botryosphaeria Twig Canker	Dry, sunken, cracked lesions on twigs; die-back.	Prune out cankers making cuts at least 2 inches from lesion edge.
Hawthorne, Indian	Entomosporium Leaf Spot	Black, red bordered, circular spots.	See AL Pest Management Handbook.
Holly	Phytophthora Root Rot	Dieback; roots become water soaked and rotted.	Sanitation. Reduce irrigation and/or improve soil drainage. See the AL Pest Management Handbook.
Holly, Japanese 'Compacta'	Botryosphaeria Canker	Small-large sunken lesions with cracking at lesion edges; dieback.	Pruning.
Holly, Yaupon	Armillaria Root Rot	Dieback of lower branches first; brown mushrooms may develop at plant base. See ANR-907.	Remove plant. See ANR-907.
Honeysuckle	Anthracnose ( <i>Colletotrichum</i> )	Circular-irregularly shaped brown leaf spots.	Sanitation.
Horse Chestnut	Leaf Blotch ( <i>Guignardia</i> )	Angular, brown leaf spots.	Collect and remove all fallen leaves this fall.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Hosta	Anthracnose ( <i>Colletotrichum</i> ) Leaf Spot	Brown, irregularly-shaped leaf spots.	Sanitation; Cleary's 3336 or Domain protective sprays.
Hydrangea	Botrytis Blossom Blight	Irregular brown spots and blotches on flowers.	Sanitation; Cleary's 3336, Domain or benomyl product.
	Colletotrichum Blossom Blight	Irregular brown spots blotches on flowers, sometimes orange patches of spores are present.	Sanitation; Cleary's 3336 or Domain, or benomyl.
	Phyllosticta Leaf Spot	Brown circular spots, sometimes with dark border.	Sanitation; Cleary's 3336 or Domain or benomyl product.
Hydrangea, Oakleaf	Armillaria Root Rot	Dieback; thin, white mycelial layer just under bark, appressed to wood. Black, thread-like structures may be present above or below surface of root or crown; brown mushrooms may be present.	Removal of tree and roots; maintain healthy trees.
	Bacterial Leaf Spot	Black, angular spots that sometimes show water-soaked edges or a yellow halo.	Remove all spotted foliage. Do not water over-head.
Impatiens	Impatiens Necrotic Spot Virus	Irregularly shaped black spots/blotches ( $\frac{1}{8}$ - $\frac{1}{4}$ inch diameter-usually) which may be confused with bacterial infection. Black ring spots may be present.	Control thrips. Sanitation.
	Rhizoctonia Stem Rot	Lower stems develop brown sunken lesions; plants dieback.	Sanitation; Cleary's protective sprays; crop rotation.
Iris	Heterosporium Leaf Spot	Small-large ( $\frac{1}{4}$ - $\frac{1}{2}$ inch long), elliptical or oval shaped medium brown leaf spots.	Sanitation. See AL Pest Management Handbook.
	Rust ( <i>Puccinia</i> )	Small, red-orange, powdery, raised spots.	Sanitation.
Ivy, English	Anthracnose ( <i>Colletotrichum</i> )	Irregularly-shaped brown leaf spots.	Sanitation; See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Bacterial Leaf Spot	Dark, brown, wet, angular leaf spots.	Sanitation. See the AL Pest Management Handbook.
Jacobinia	Impatiens Necrotic Spot Virus	Stunting, wilt, leaf spots.	Sanitation; thrips control.
Juniper	Cedar Apple Rust ( <i>Gymnosporangium</i> )	Hard, spherical twig or branch galls; some galls produce gelatinous, orange, finger-like projections of spore masses.	Remove galls before spore production. Remove cedar or apple trees; protective fungicide sprays. See ANR-468.
	Kabatinia Tip Blight	Juniper twigs dieback; appears similar to Phomopsis tip blight.	Sanitation; refer to fungicides listed for control of Phomopsis tip blight.
	Pestalotiopsis Blight	Blight of inner foliage of stressed plants.	Sanitation. See the AL Pest Management Handbook under Phomopsis Twig Blight for protective fungicides.
	Phomopsis Blight	Tips of twigs on lower branches become brown. The blight spreads down the twig and upward in the plant.	Sanitation. See the AL Pest Management Handbook.
	Phytophthora Root Rot	Roots brown, water soaked.	See AL Pest Management Handbook.
Kudzu	Bacterial Leaf Spot ( <i>Pseudomonas</i> )	Small black circular spots with a yellow halo.	---
Leyland Cypress	Botryosphaeria Canker	Elongate sunken trunk and branch brown lesions.	Sanitation.
	Pestalotiopsis Canker	Elongate sunken trunk and branch brown lesions.	Sanitation.
	Seiridium Canker	Elongate sunken trunk and branch brown lesions.	Sanitation.
Ligustrum	Cercospora Leaf Spot	Medium brown, irregularly shaped spots (¼-½ inch long).	Sanitation. See the AL Pest Management Handbook.
Lupin	Rhizoctonia Crown Rot	Brown dried lesions on stems near the soil line.	---

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Magnolia, Southern	Algal Leaf Spot ( <i>Cephaleuros</i> )	Usually circular, greenish, slightly raised spots. Spot edges slightly more raised than spot center. Edges are irregular.	Sanitation. See the AL Pest Management Handbook.
	Bacterial Leaf Spot ( <i>Pseudomonas cichorii</i> )	Small, angular, water soaked spots.	Sanitation. Kocide 101 or Bordeaux mixture.
	Black Mildew ( <i>Meliola</i> )	Black surface mold on lower leaf surface.	-----
Maple	Anthrachnose ( <i>Kabatella</i> )	Brown-black spots/blotches which often follow along leaf veins; sometimes blotchy areas occur along leaf edges.	Sanitation. See AL Pest Management Handbook for small trees.
	Purple Eye Spot ( <i>Phyllosticta</i> )	Purple circular spots (about ¼ inch diameter) with dark purple, black border.	Sanitation. See the AL Pest Management Handbook.
	Tar Spot ( <i>Rhytisma</i> )	Black irregularly-shaped spots.	Sanitation of fallen leaves this fall. See the AL Pest Management Handbook.
Maple, Japanese	Botryosphaeria Canker	Sunken, elliptical cracked, dry lesions on trunk or branches.	Pruning. Make cuts 3-4 inches from lesion edges.
	Phyllosticta Leaf Spot	Brown circular spots with dark brown or purple margins.	Sanitation of fallen leaves this fall. See the AL Pest Management Handbook.
	Phytophthora Root Rot	Initially roots become brown and water-soaked. Later, dead roots dry out. Dieback.	Remove tree. Improve drainage. Plant resistant plant selection, if possible.
Marigold	Anthrachnose ( <i>Colletotrichum</i> )	Circular, cream-colored spots (1-3 mm diameter) on leaves.	Sanitation. Cleary's 3336 would control anthracnose and it is labeled on marigold.
	Fusarium Wilt	Lower leaves wilt and turn yellow. Yellowing and wilt slowly progress up the plant. Vascular tissues turn brown.	Sanitation. Rotate away from marigolds for 10-16 years.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Pythium Root Rot	Roots become light brown, water-soaked, and tissues pull apart easily.	Sanitation. Reduce soil water content. See the AL Pest Management Handbook.
Mayapple	Rust ( <i>Puccinia</i> )	Yellow angular spots may develop; eventually, orange powdery dots of spore pustules appear; leaf blight follows.	Sanitation. Mayapple is only host for this rust.
Million-Bells	Pythium Root Rot	Dieback, wilt, roots are light brown and decayed.	Sanitation. Reduce water in the area.
Mondograss	Anthracoise ( <i>Colletotrichum</i> )	Gray-brown spots, blotches, often at leaf tips, margins.	Sanitation. Cleary's or Domain.
Muscadine	Black Rot ( <i>Guignardia</i> )	See Grape.	See AL Pest Management Handbook.
Nectarine	Brown Rot	See Peach.	
Oak	Anthracoise ( <i>Apiognomonina</i> )	Medium-brown blotches along leaf veins, in interveinal areas and along leaf margins.	Sanitation. See AL Pest Management Handbook for small trees.
	Oak Leaf Blister ( <i>Taphrina</i> )	Concave-convex spot areas that are slightly swollen and slightly discolored.	Sanitation. See AL Pest Management Handbook.
Oats	Loose Smut ( <i>Ustilago avenae</i> )	Plants shorter than normal; the grain is replaced by dark-brown to black powdery masses of smut spores. Usually all the grain on an infected plant is smutted.	Treated seed with fungicide.
	Rust (Crown or Leaf) [ <i>Puccinia coronata</i> ]	Bright orange-yellow round or oblong powdery pustules on leaves, sheaths, stems, panicles. Plants are weakened when infection is severe.	Deep plow.
Okra	Rhizoctonia Crown & Root Rot	A brown, dry decay of crown & roots.	Sanitation. Crop rotation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Oxalis	Kuehneola Rust	Orange powdery pustules on leaves.	Sanitation. Crop rotation.
Peach	Bacterial Leaf Spot ( <i>Xanthomonas</i> )	Small (2-6 mm diameter) circular, brown-black spots with wet-looking margins and dry-sometimes shot-hole centers. Older spots often have reddish margins. Spots may be surrounded with a yellow zone or halo.	Sanitation; protective bactericide sprays for commercial growers.
	Brown Rot ( <i>Monilinia</i> )	Twig blight; canker; fruit rot develops as fruits mature.	Protective fungicide sprays. Sanitation.
	Peach Tree Short Life	Dieback of limbs. Poor growth.	Tree removal. Fumigation.
	Root-Knot Nematode ( <i>Meloidogyne</i> )	Trees, unthrifty, poor growth; roots have galls.	See AL Pest Management Handbook.
	Twig Blight ( <i>Phomopsis</i> )	Twig dieback with brown-black cankers (Some cankers have a zonate pattern.)	Sanitation.
Pear	Entomosporium Leaf Spot ( <i>Fabraea</i> )	Roughly circular brownish-black spots (1/8 inch wide).	Sanitation. Spray schedule as described in the AL Pest Management Handbook.
	Fire blight ( <i>Erwinia amylovora</i> )	Black discoloration dieback; often infection begins in the blossoms and moves down into the branch. Blighted branch tips often curve downward. Sunken cankers develop on branches.	Sanitation. See ANR-542 or AL Pest Management Handbook.
	Frogeye Leaf Spot ( <i>Botryosphaeria</i> )	Brown, circular spots with dark borders.	Sanitation. See the AL Pest Management Handbook.
Peanut	Rhizoctonia Seedling Disease & Root Rot	Dry, brown lesions on roots and stems.	Soil or seed treatment before planting.
Pea, Southern	Anthracnose ( <i>Colletotrichum</i> )	Gray, brown circular-oval spots on leaves and stems.	See the Alabama Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Fusarium Crown Rot	Lower stems & crowns become red-dish-brown and dry rotted.	Sanitation; crop rotation.
	Rhizoctonia Seedling Disease; Lower Stem Rot	Medium-dark brown blotches or elongated lesions on lower stem near the soil line.	Fungicide treatment prior to planting.
Pecan	Scab ( <i>Cladosporium</i> )	Dark olive-green to brown to dark brown slightly raised spots on leaves and nut shucks. Defoliation where disease is severe.	See the AL Pest management Handbook. Sanitation.
Peony	Anthrachnose ( <i>Colletotrichum</i> )	Circular, light brown spots (2-3mm diameter) on leaves.	Sanitation. See the AL Pest Management Handbook.
Pepper	Bacterial Leaf Spot ( <i>Xanthomonas</i> )	Dark, angular green-black, water-soaked spots ( $\frac{1}{8}$ - $\frac{1}{4}$ inch diameter); older spots become dry and white; leaf drop.	Sanitation; protective sprays.
	Cucumber Mosaic Virus	Leaves are malformed and distorted, sometimes shoestring-shaped. Leaves sometimes show yellow patterns.	Sanitation. Control aphids.
	Fusarium Crown Rot	Dry decay of stem at soil line.	Remove and destroy damaged plants. See Ed Sikora for questions.
	<i>Phytophthora capsici</i> Crown/Root Rot	Brown lesions on lower stems, crowns mostly; some root rot.	Sanitation; Ridomil.
	Pythium Root Rot	Brown, water-soaked lesions.	Sanitation; Improved soil drainage; See AL Pest Management Handbook.
Persimmon	Phomopsis Dieback	Branch dieback. Cankers form at end of dieback.	Prune out dieback. Make cuts 3-4 inches beyond dieback area.
Persimmon, Japanese	Anthrachnose ( <i>Colletotrichum</i> )	Circular or irregularly shaped brown leaf spots.	Clean up all fallen leaves in fall; Cleary's 3336 or Halt may be applied as a protective treatment.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Botryosphaeria Twig Canker	Small twigs develop sunken, cracked spots.	Prune out dieback. Make cuts 3-4 inches beyond end of dieback area.
Petunia	Phytophthora Aerial Blight	Brown lesions on leaves and stems; dieback.	See the AL Pest Management Handbook.
	Phytophthora Root Rot	Roots brown, wet, easily pulled apart.	Sanitation. Avoid wet soils.
Phlox	Alternaria Leaf Spot	Dark brown irregularly-shaped spots.	Sanitation; Cleary's 3336 or Domain or an ornamental benomyl product.
Photinia	Entomosporium Leaf Spot	Red-black circular-irregularly shaped spots which often coalesce; leaf drop.	Sanitation. Protective fungicide sprays.
Pine	Needlecast Diseases	Older needles turn brown, drop.	See AL Pest Management Handbook.
	Needle Rust ( <i>Coleosporium</i> )	Cream-orange-colored pustules up to 1/8" or 2-3 mm in size occur on needles only of pine.	Remove asters from the area.
	Pitch Canker ( <i>Fusarium</i> )	Sunken, cracked lesions on branches, trunks where resin is common.	Sanitation. See the AL Pest Management Handbook for comments.
Pine, Japanese Black Pine	Needlecast ( <i>Ploioderma</i> spp.)	Older needles turn brown, drop.	See AL Pesticide Handbook.
Pine, Loblolly	Coleosporium Needle Blight	Needles develop white blisters.	Remove alternate host - asters from the area.
	Rhizosphaeria Needle Blight	Needle blight and drop occurs. Needles develop tiny brown spots in a row.	See the AL Pest Management Handbook.
Plum	Bacterial Leaf Spot ( <i>Xanthomonas</i> )	See Peach Bacterial Leaf Spot.	See Peach.
	Black Knot ( <i>Plowrightia</i> )	Rough elongated branch galls which begin as greenish swellings but soon develop into hard black elongated branch swellings or galls.	Sanitation; protective sprays of Captan in early spring.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Botryosphaeria Canker	Dry, sunken, brown lesions that are often cracked around the edges; dieback.	Sanitation.
Potato, Irish	Bacterial Wilt ( <i>Pseudomonas</i> )	Green plants wilt suddenly. Vascular system is brown in the lower stem area. Outer vascular ring of tubers may be discolored.	Rotation away from potato, peppers, tomato, and eggplant for several (4-5 years) years or fumigation.
	Blackleg ( <i>Erwinia</i> )	Large areas of stems become black and water soaked. Plants wilt and die. Tubers are also rotted.	Use disease-free seed pieces; treat seed pieces; clean equipment with solutions of bleach or formaldehyde or allow for good suberization before planting in well-drained areas; crop rotation 2-3 years; control seed corn maggots with insecticides. See the AL Pest Management Handbook.
	Early Blight ( <i>Alternaria</i> )	Black, zonate, roughly circular or oval spots (4-10 mm or ¼-½ inch diameter). Spots may also develop on stems & tubers.	Follow spray schedule recommended.
	Late Blight ( <i>Phytophthora infestans</i> )	Brown blotches on leaves and stems; eventually whole leaves and stem sections become severely decayed.	See the AL Pest Management Handbook. See Ed Sikora for commercial plantings.
	Rhizoctonia Stem Rot	Lower stem shows sunken, brown rotted areas.	Sanitation; See AL Pest Management Handbook.
	Scab ( <i>Streptomyces scabies</i> )	Slightly raised, scabby circular or circular-irregular lesions on surface of tubers.	It may help to keep soil slightly acid; crop rotation; see Ed Sikora.
Rhododendron	Cercospora Leaf Spot	Circular-irregular brown leaf spots.	Sanitation. See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Exobasidium Gall	Fleshy, swellings of leaves, flowers. Swellings initially are green but become white or pink when spore production occurs.	Sanitation; Bayleton in some circumstances. See AL Pest Management Handbook.
Rose	Black Spot ( <i>Diplocarpon</i> )	Black spots (1/8-1/4 inch diameter, 4-8 mm) with feathery margins.	Follow a regular spray schedule; sanitation.
	Botrytis Blossom Blight	Blossoms develop small-large brown blotches. A gray delicate webbing of the fungal mycelium and spores may develop over blotches.	Sanitation. Protective fungicide sprays.
	Brand Canker ( <i>Coniothyrium</i> )	Gray, cracked, irregular canker on canes.	Sanitation; fungicides that are recommended for black spot will help.
	Mosaic	Distinct pattern of dark green & light green or yellow on leaves.	Control weeds; control insects; remove diseased plants.
	Powdery Mildew ( <i>Sphaerotheca</i> )	White powdery patches on foliage; some leaf deformity may occur on new growth.	See the AL Pest Management Handbook.
	Tobacco Ringspot Virus	Plant stunted, mottled.	Sanitation; Control nematodes.
Sedum	Colletotrichum Leaf Spot	Circular-oval, brown leaf spots.	Sanitation; Cleary's 3336 or Halt.
Snapdragon	Pythium Root Rot	Roots become light brown and wet rotted. Eventually, roots become dry. Dieback occurs.	Sanitation. Reduce water levels in the area. See the AL Pest Management Handbook.
Spirea	Powdery Mildew	White, powdery dusting on surface of leaves; some leaf distortion; leaf blight.	Sanitation; Cleary's 3336.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Spirea, Bridle Wreath	Armillaria Root Rot	Dieback; thin, white mycelial layer just under bark, appressed to wood. Black, thread-like structures may be present above or below surface of root or crown. Brown mushrooms may be present.	Removal of shrub and roots; maintain healthy shrubs.
Squash	Choanephora Wet Rot	Large sections of fruit become wet rotted sometimes with black spore structures covering the fruit surface.	Decrease humidity.
	Mosaic Virus	Distinct pattern of dark green and light green or yellow on leaves.	Control weeds; control insects; remove diseased plants; do not save seed.
Squash, Yellow	Pythium Seeding Disease	Roots become brown and water soaked.	----
	Watermelon Mosaic Virus	Patterned patches of light and darker green or yellow pigmentation on leaves.	Sanitation; control aphids.
St. Augustine	Brown Patch ( <i>Rhizoctonia</i> )	Leaf blades develop brown blotches; whole leaves become browned.	See the AL Pest Management Handbook.
	Gray Leaf Spot	Gray-brown spots on foliage. Disease may be severe.	See ANR-492 or Pest Management Handbook.
	Take-All ( <i>Gaeumannomyces</i> )	Individual plants yellow and areas thin out. Black lesions occurs on roots, stolons.	See PP-312 or AL Pest Management Handbook.
Strawberry	Angular Leaf Spot ( <i>Xanthomonas</i> )	Angular, black spots in interveinal areas. Spotting may be severe.	See the AL Pest Management Handbook.
	Anthrachnose-Crown Rot ( <i>Colletotrichum</i> )	Lower stems and crowns become brown, and rotted.	Use healthy transplants. Sanitation. See Ed Sikora.
	Mycosphaerella Leaf Spot	Small (1/8 inch) red-brown circular spots.	See the AL Pest Management Handbook.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Sweet Potato	Black Rot ( <i>Ceratocystis fimbriata</i> )	Black lesions on root surface which extend to but not beyond the vascular ring. Secondary bacteria will sometimes invade tissues and cause rotting beyond the vascular system.	Sanitation. See the AL Pest Management Handbook.
Sycamore	Anthracnose ( <i>Apiognomonia</i> )	Gray-brown blotches on leaves; sometimes blotches follow leaf veins or leaf margins.	Sanitation. Protective fungicide sprays for small trees.
	Scorch ( <i>Xylella</i> )	Leaves become brown and dried at the margins; dieback during summer months.	Tree pruning or removal.
Tomato	Bacterial Canker ( <i>Clavibacter</i> )	Dark brown, black, slightly sunken, large lesions (1-4 cm or larger) develop on stems.	See the AL Pest Management Handbook.
	Bacterial Spot ( <i>Xanthomonas</i> )	Small, dark green or black, wet-looking, angular spots.	Sanitation. Protective sprays.
	Bacterial Wilt ( <i>Ralstonia solanacearum</i> )	Plants wilt suddenly while still green. Lower stem areas are black (decayed) beneath the green outer layers.	Rotate the area away from tomato, potato, eggplant and pepper for 4-5 years or fumigate the soil.
	Blossom End Rot	Black, hard, circular, slightly sunken spots at stem end of fruit.	See AL Pest Management Handbook.
	Buckeye Rot ( <i>Phytophthora nicotiana</i> )	On fruit, spots are pale brown with concentric rings.	Keep fruit off the soil. See AL Pest Management Handbook.
	Cucumber Mosaic Virus	Plants become stunted with misshaped leaves (often strap shaped) that may be puckered and show a mosaic pattern.	Sanitation; Aphid control.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Early Blight ( <i>Alternaria</i> )	Black or brown spots (¼-½ inch diameter or 4-10 mm diameter) on leaves, stems, fruit. Spots often have a concentric pattern.	Fungicide sprays; sanitation.
	Fusarium Wilt	Lower leaves turn yellow and wilt. Yellowing progresses up the plant.	Crop rotate away from tomatoes 10-16 years on resistant varieties.
	Late Blight ( <i>Phytophthora infestans</i> )	See Irish Potato.	See the AL Pest Management Handbook.
	Leaf Mold ( <i>Fulvia fulva</i> )	Gray fungal growth in blotches on leaves.	See AL Pest Management Handbook.
	Pythium Root Rot	Roots develop brown-colored, soft rot.	Sanitation. Do not irrigate excessively; provide well-drained soil area. See AL Pest Management Handbook
	Rhizoctonia Collar Rot	A dry, brown rot develops on lower stem at soil line.	Plant removal. See Ed Sikora.
	Root-Knot Nematode ( <i>Meloidogyne</i> )	Irregular root galls which involve the whole root circumference. Gall size varies from small (2-3 mm diameter) to large (1-1.5 cm diameter).	Soil fumigation (commercial) or rotation to dwarf French marigold or pasture grasses.
	Septoria Leaf Spot	Small (¼ inch diameter) roughly circular gray-brown spots.	Protective fungicide sprays. See AL Pest Management Handbook.
	Southern Blight ( <i>Sclerotium rolfsii</i> )	A wet, brown rot develops at the soil line; with humid conditions, a thick white mold may develop, often with hard, brown, spherical sclerotia (over-wintering bodies) present.	Sanitation; see Disease Note ANR-863.
	Timber Rot ( <i>Sclerotinia</i> )	Lower stem near soil (crown) becomes brown and decayed. Plant wilts and eventually collapses.	Remove damaged plants. Consult Ed Sikora.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Tomato Pith Necrosis ( <i>Pseudomonas corrugate</i> )	Sections of stem may show a black discoloration; plant parts above the lesion wilt and die; inside the stem, hollow 'chambers' are delimited by 'strands' of pith tissue.	Sanitation.
	Tomato Spotted Wilt Virus	Wilt, ring spots, bronzed leaf surface areas, and wilt may develop. Fruit & new growth is stunted.	Remove plants. Control thrips.
Vegetables	Seedling Diseases ( <i>Fusarium</i> , <i>Rhizoctonia</i> , Pythium)	Seedlings fall over at the soil line; small stems are weak and limp; brown discoloration may be evident.	Soil treatments (in some situations) or seed treatments before planting. See Ed Sikora.
Vinca, Annual Periwinkle ( <i>Catharanthus</i> )	Alternaria Leaf Spot	Circular-angular dark brown-black spots.	Sanitation. Cleary's 3336 or Domain should give protection control.
	Botrytis Blight	Brown-gray leaf spots & blight	Sanitation. Make adjustments to decrease humidity levels. Cleary's 3336 or Domain should give protective control.
	Phytophthora Stem Rot	Sections of stems become brown, wet, and collapsed, shriveled.	Sanitation. In some cases Aliette WDG may be used as a protective treatment. See AL Pest Management Handbook.
	Rhizoctonia Aerial Blight	Dark brown dried cankers on stems. Tops dieback.	Sanitation. Cleary's 3336 may be used in some situations. See the AL Pest Management Handbook.
Violet	Cercospora Leaf Spot	Irregularly shaped brown-black spots.	Sanitation. Cleary's 3336 or Halt may be applied as protective treatments.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Watermelon	Anthracnose ( <i>Colletotrichum</i> )	Foliage spots begin as small yellow or water soaked irregular areas which become larger and eventually black. Whole leaf areas may become covered with the coalesced spotting/ blotches. On the fruit, small water soaked spots become dark green and then brown-black sunken spots (¼-2 inches x inch deep). With high humidity the spots may become covered with gelatinous masses of orange spores.	See the AL Pest Management Handbook.
	Fusarium Root Rot	Roots become dry, rotted; wilt, dieback.	Crop rotate for 10-16 years.
	Fusarium Wilt	Lower leaves turn yellow and wilt slowly develops.	Rotation; resistant varieties.
	Gummy Stem ( <i>Mycosphaerella</i> )	Brown, black spots occur interveinally in the lobes of leaves. Usually older leaves near the center of the bill are affected initially. As the season progresses, elongated, water soaked, light-brown to gray lesions occur on vines, often near the crown of the plant. As lesions age, cracking occurs and a reddish-yellow gummy substance oozes around the crack. Plants gradually yellow and turn brown.	See the Alabama Pest Management Handbook.
	Pythium Root Rot	Roots become brown-colored and soft rotted.	Sanitation. Avoid wet conditions, especially with poorly draining soil. Contact Ed Sikora if you have questions.
	Rhizoctonia Seedling Blight	Brown lesions on lower stems; seedlings collapse.	Sanitation. Crop rotation.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
	Suspect Ozone Damage	Older leaves with whitish, nitted interveinal areas of upper leaf surfaces. Old damage may become black.	---
Wheat	Bipolaris Leaf Spot	Brown irregular spots.	Fungicides in some situations; refer to Bill Gazaway.
	Black Chaff ( <i>Xanthomonas</i> )	Gray-brown-black discoloration of seed heads and leaves. Discoloration starts at tip of seed.	Use healthy seed.
	Fusarium Scab (Head Blight)	Head blight with a pinkish cast due to presence of spores.	Use healthy seed. Deep plowing, crop rotation of one year. Some cultivar differences in disease susceptibility have been noted.
	Leaf Rust ( <i>Puccinia</i> sp.)	Orange powdery spots.	Fungicides in some situations; refer to Bill Gazaway.
	Powdery Mildew ( <i>Erysiphe</i> sp.)	Buff-colored spots and patches.	Fungicides in some situations; refer to Bill Gazaway.
	Septoria Glume Blotch/Leaf Spot	Gray-brown patches of discoloration on glumes; gray-brown leaf spots ( $\frac{1}{4}$ - $\frac{1}{3}$ inch diameter).	---
	Take-All ( <i>Gaeumannomyces</i> sp.)	Stem at the soil-line become black. Plants die.	Rotation.
	Tan Spot ( <i>Drechslera tritrici-repentis</i> )	Circular to oval brown leaf spots.	---
Willow	Leaf Rust ( <i>Melampsora</i> )	Yellow orange pustules on leaves.	Sanitation.
Willow, Weeping	Armillaria Root Rot	Dieback; thin, white mycelial layer just under bark, appressed to wood. Black, thread-like structures may be present above or below surface of root or crown. Brown mushrooms may be present.	Removal of tree and roots; maintain healthy trees.

<u>Plant</u>	<u>Disease</u>	<u>Description</u>	<u>Control</u>
Zinnia	Bacterial Leaf Spot (Large Patch)	Small, angular, dark gray or black leaf spots. Spot edges may appear wet.	Remove all damaged plants. Do not water over-head. Phyton 27 may be used, if desired. See the AL Pest Management Handbook.
Zoysia	Brown Patch ( <i>Rhizoctonia</i> )	See Centipede.	See Centipede.
	Dollar Spot ( <i>Sclerotinia</i> )	Yellow or white spots the size of a silver dollar develop. Spots may coalesce.	See ANR-493.
	Rust ( <i>Puccinia</i> )	Areas of turf become yellow-brown with tiny spots of orange powdery spores.	See the AL Pest Management Handbook or ANR-621.
	Suspect Winter Damage	Large turf areas do not green up in the spring.	---
	Take-All Patch ( <i>Gaeumannomyces</i> sp.)	Individual plants turn yellow and die. Roots show dark brown or black lesions.	See PP-312 and the AL Pest Management Handbook.

### Lab Notes

As we move into our busiest time of year, please take care when filling out the diagnostic sheet or when advising clients in filling out the information. Soil analysis (pH, minerals) results will come back to the client more quickly if sent directly. If the client would like us to forward soil to Soil Test Lab--if we believe a soil problem exists--he/she must indicate yes on the form. We will not forward soil when a charge is involved unless the client gives approval. Also, please indicate whether the sample is a client charge or an educational (ACES) charge by checking the appropriate blank in the box at the top of the form. Thanks!

### Soil Samples For Nematode Analysis

Please be sure you are using the current soil nematode sample submission form which indicates a service charge of \$10.

### Insects

Usually insects for identification should be sent in isopropyl alcohol. If you send live insects, please clearly indicate this on your paperwork.